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^{B4}
cont or, quantitatively, using an anti-MBP capture-biotinylated SW-192 reporter sandwich format, as shown in FIG. 19.

IN THE CLAIMS:

Please cancel claims 49 and 50.

^{B5} 48. (Amended) An isolated nucleic acid, comprising a sequence of nucleotides that encodes SEQ ID NO: 43, SEQ ID NO: 66, SEQ ID NO: 67, SEQ ID NO: 69, or a complementary sequence of any of such nucleotides.

^{B6} 51. (Amended) An expression vector, comprising the isolated nucleic acid of claim 48; and operably linked to said nucleic acid, regulatory sequences effective for expression of the nucleic acid in a selected host cell.

^{Sub E}
^{B7} 58. (Amended) A method of producing a recombinant β -secretase enzyme, comprising culturing a cell transfected with a vector comprising a sequence of nucleotides that encodes SEQ ID NO: 2, SEQ ID NO: 43, SEQ ID NO: 56, SEQ ID NO: 57, SEQ ID NO: 58, SEQ ID NO: 59, SEQ ID NO: 60, SEQ ID NO: 66, SEQ ID NO: 67, SEQ ID NO: 68, SEQ ID NO: 69, SEQ ID NO: 70, SEQ ID NO: 71, SEQ ID NO: 74, SEQ ID NO: 75, a β -secretase protein, or a complementary sequence of such nucleotides under conditions to promote growth of said cell, and subjecting an extract or cultured medium from said cell to an affinity matrix.

^{B8} 60. (Amended) The method of claim 59, wherein said inhibitor molecule is P10-P4'staD->V (SEQ ID NO: 73).

^{B9} 62. (Amended) The method of claim 61, wherein said antibody binds specifically to any of the protein compositions of SEQ ID NO: 2, SEQ ID NO: 43, SEQ ID NO: 56, SEQ ID NO: 57, SEQ ID NO: 58, SEQ ID NO: 59, SEQ ID NO: 60, SEQ ID NO: 66, SEQ

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ID NO: 67, SEQ ID NO: 68, SEQ ID NO: 69, SEQ ID NO: 70, SEQ ID NO: 71, SEQ ID NO: 74, SEQ ID NO: 75, or a β -secretase protein.

63. (Amended) The method of claim 61, wherein said antibody further lacks significant immunoreactivity with a protein having the sequence SEQ ID NO: 2 [1-501].

64. (Amended) A heterologous cell, comprising

(i) a nucleic acid molecule encoding SEQ ID NO: 43, SEQ ID NO: 66, SEQ ID NO: 67, SEQ ID NO: 69, or the complementary sequence of said nucleic acid molecule;

(ii) a nucleic acid molecule encoding a β -secretase substrate molecule; and

(iii) operatively linked to (i) and (ii), a regulatory sequence effective for expression of said nucleic acid molecules in said cell.

66. (Amended) The cell of claim 64, wherein both said nucleic acids encoding said β -secretase protein and encoding said β -secretase substrate molecule are heterologous to said cell.

68. (Amended) The cell of claim 64, wherein said β -secretase substrate is selected from the group consisting of a maltose binding protein fused at the carboxy-terminus to the 125 carboxyl-terminal amino acids of APP having the cleavage site of SEQ ID NO: 54 (MBP-C125wt) and a maltose binding protein fused at the carboxy-terminus to the 125 C-terminus amino acids of APP having the cleavage site of SEQ ID NO: 51 (MBP-C125sw).

REMARKS

Claims 48 and 51-69 are pending, claims 49 and 50 having been canceled. Independent claim 48 has been amended as follows. The " β -secretase of any of claims 1-10 or 22-35 or a complementary sequence of any of such nucleotides" has been replaced with "SEQ ID NO: 43, SEQ ID NO: 66, SEQ ID NO: 67, SEQ ID NO: 69, or a complementary sequence of any of such nucleotides." Dependent claim 62 has been amended as follows. "[C]laims 1-11

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